Listing of Claims

1. A plasma display panel in which a plurality of cells are constituted by a plurality of row and column electrodes which are directly crossed with one another between two substrates which are combined in parallel, characterized in that said row electrode has a transparent electrode having a plurality of projecting electrode parts which are alternately projected upward and downward with a predetermined width along a row axis, and an opaque electrode formed at the lower portion of the row axis of said transparent electrode, said column electrode is arranged on a column axis of said projecting electrode part, and said row electrode

is concerned in the discharge of two adjacent column-direction cell groups by the interaction with two other row electrodes adjacent in a column direction.

2. The plasma display panel as claimed in claim 1, wherein said predetermined width is the width of a unit cell.

3. The plasma display panel as claimed in claim 1, wherein two row electrodes adjacent in a column direction are formed to be in parallel in a column direction with said projecting electrode parts being distanced by a predetermined distance.

4. The plasma display panel as claimed in claim 1, wherein said opaque electrode is injected with a predetermined width at the position and direction where said projecting electrode parts are arranged.

5. The plasma display panel as claimed in claim 4, wherein said opaque electrode is projected with a predetermined width at the position and from an opposite direction where said projecting electrode parts are arranged.

6. A method for driving a plasma display panel in which a plurality of cells are constituted by a plurality of row and column electrodes which are arranged to be directly crossed with one another between two substrates which are combined in parallel, and said row electrode is concerned in the discharge of two adjacent column-direction cell groups by

the interaction with two other row electrodes adjacent in a column direction, comprising the steps of:

applying a scan voltage between said column electrode and row electrode corresponding to a discharge cell, thus generating an address discharge between corresponding column and row electrodes;

applying a sustain voltage to said row electrode, thus generating a sustain discharge between said row electrode and other row electrode adjacent to said row electrode; and

applying said sustain voltage to said other row electrode, thus generating said sustain discharge again between said row electrode and said other row electrode.

7. The method as claimed in claim 6, wherein a discharge start voltage of said discharge cell is higher than the addition of a wall voltage by said address discharge to said scan voltage applied to the adjacent cell.

8. The method as claimed in claim 6, wherein a discharge start voltage of said discharge cell is lower than the addition of a wall voltage by said address discharge to said sustain voltage applied to the adjacent row electrode.

9. A plasma display panel, comprising:

row electrodes on a first substrate, at least one row electrode having a plurality of parts protruding in a column direction; and

column electrodes on a second substrate, wherein the second substrate is spaced from the first substrate, the column electrodes are address electrodes, and the protruding parts of the row electrodes are positioned so that adjacent discharging areas in the column direction are in non-alignment.

10. The plasma display panel of claim 9, wherein the protruding parts of said at least one row electrode include at least one protruding part in a first direction.

11. The plasma display panel of claim 10, wherein the protruding parts of said at least one row electrode include at least another protruding part in a second direction.

12. The plasma display panel of claim 11, wherein the first and second directions are opposite directions.

13. The plasma display panel of claim 9, wherein the protruding parts of said at least one row electrode protrude upwardly and downwardly in an alternating pattern in the column direction.

14. The plasma display panel of claim 9, wherein said at least one row electrode includes a transparent electrode and the protruding parts serve as the transparent electrode.

15. The plasma display panel of claim 14, wherein said at least one row electrode further comprises an opaque electrode.

16. The plasma display panel of claim 15, wherein the opaque electrode is in contact with the transparent electrode.

17. The plasma display panel of claim 16, wherein the opaque electrode is substantially aligned with a center of the transparent electrode.

18. The plasma display panel of claim 9, wherein each discharging area is defined at least by barrier ribs formed between the first and second substrates.

19. The plasma display panel of claim 15, wherein a width of the opaque electrode is smaller than a width of the transparent electrode.

20. The plasma display panel of claim 15, wherein the opaque electrode has substantially a zig-zag pattern in a direction of the row electrodes.

21. A plasma display panel, comprising:

a plurality of row electrodes on a first substrate, at least one row electrode having a plurality of protrusions; and

a plurality of column electrodes on a second substrate; and

a plurality of cells formed between the first and second substrates,

wherein at least two of the cells adjacent in the column direction use a same row electrode to emit light.

22. The plasma display panel as claimed in claim 21, wherein said adjacent cells in the column direction are in non-alignment.

23. The plasma display panel as claimed in claim 21, wherein said same row electrode serves as at least one of a scan electrode for a first one of said adjacent cells and a sustain electrode for the second one of said adjacent cells.

24. The plasma display panel as claimed in claim 21, wherein said same row electrode is located between said adjacent cells.

25. The plasma display panel as claimed in claim 21, wherein said at least one row electrode includes a transparent electrode having the plurality of protrusions.

26. The plasma display panel as claimed in claim 25, wherein said at least one row electrode further comprises an opaque electrode.

27. The plasma display panel as claimed in claim 26, wherein the opaque electrode is in contact with the transparent electrode.

28. The plasma display panel as claimed in claim 21, wherein the protrusions of said at least one row electrode include at least one protrusion in a first direction.

29. The plasma display panel as claimed in claim 28, wherein the protrusions of said at least one row electrode include at least another protrusion in a second direction.

30. The plasma display panel as claimed in claim 29, wherein the first and second directions are opposite directions.

31. The plasma display panel as claimed in claim 29, wherein the protrusions extend in an alternating pattern in the first and second directions.

32. The plasma display panel as claimed in claim 21, further comprising:

another row electrode having a plurality of protrusions,

wherein the protrusions of said at least one row electrode and said another row electrode extend in a same direction and are in non-alignment in said same direction.

33. The plasma display panel as claimed in claim 26, wherein the opaque electrode is aligned with a center of the transparent electrode.

34. The plasma display panel as claimed in claim 26, wherein a width of the opaque electrode is smaller than a width of the transparent electrode.

35. The plasma display panel as claimed in claim 26, wherein the opaque electrode has a substantially constant width.

36. The plasma display panel as claimed in claim 26, wherein the opaque electrode includes portions extending in opposing directions in an alternating pattern.

37. The plasma display panel as claimed in claim 35, wherein the opaque electrode is aligned with a center of the transparent electrode.

38. The plasma display panel as claimed in claim 36, wherein the extending portions of the opaque electrode are located between respective protrusions of the transparent electrode.

39. The plasma display panel as claimed in claim 21, wherein the plurality of protrusions have a prescribed shape.

40. The plasma display panel as claimed in claim 39, wherein the prescribed shape is a substantially rectangular shape.

41. The plasma display panel as claimed in claim 21, wherein each of said adjacent cells includes pixel units of different colors.

42. The plasma display panel as claimed in claim 41, wherein the pixel units in said adjacent cells are arranged so that no two pixel units of the same color are adjacent one another.

43. The plasma display panel as claimed in claim 21, wherein the protrusions of said at least one row electrode are positioned so that adjacent discharging areas in the column direction are in non-alignment.

44. The plasma display panel as claimed in claim 43, wherein each discharging area is defined by barrier ribs formed between the first and second substrates.

45. The plasma display panel as claimed in claim 26, wherein the opaque electrode has substantially a zig-zag pattern in a direction of the row electrodes.

46. The plasma display panel as claimed in claim 21, wherein the pixel units of said adjacent cells are in a substantially triangular shape.

47. A plasma display panel, comprising:

row electrodes on a first substrate;

column electrodes on a second substrate,

a phosphor layer formed over the second substrate; and

barrier ribs formed between the first and second substrates,

wherein at least one row electrode includes protrusions in first and second directions.

48. The plasma display panel as claimed in claim 47, wherein the first and second directions are opposite directions.

49. The plasma display panel as claimed in claim 47, wherein the protrusions of said at least one row electrode extend in the first and second directions in an alternating pattern.

50. The plasma display panel as claimed in claim 47, wherein said at least one row electrode includes a transparent electrode having the protrusions.

51. The plasma display panel as claimed in claim 50, wherein said at least one row electrode further comprises an opaque electrode.

52. The plasma display panel as claimed in claim 51, wherein the opaque electrode is in contact with the transparent electrode.

53. The plasma display panel as claimed in claim 51, wherein the opaque electrode follows a profile of one of the barrier ribs.

54. The plasma display panel as claimed in claim 51, wherein the opaque electrode is at least substantially aligned with a center of the transparent electrode.

55. The plasma display panel as claimed in claim 51, wherein the opaque electrode has a substantially constant width.

56. The plasma display panel as claimed in claim 47, wherein the protrusions of said at least one row electrode extend in a direction substantially parallel to the column electrodes.

57. The plasma display panel as claimed in claim 47, wherein the row electrodes and column electrodes form a plurality of cells, and wherein adjacent ones of the cells are in non-alignment in the column direction.

58. The plasma display panel as claimed in claim 47, further comprising:

discharge areas defined by the barrier ribs between the first and second substrates.

59. The plasma display panel as claimed in claim 51, wherein the opaque electrode has a substantially zig-zag pattern in a direction of the row electrodes.

60. A method for driving a plasma display panel, comprising:

generating a wall charge in a first cell having first and second row electrodes;

generating a wall charge in a second cell having the second row electrode and a third row electrode; and

applying alternating voltages to the second row electrode to control sustain discharges in the first and second cells, wherein the first, second, and third row electrodes are on a first substrate and column electrodes in the first and second cells are on a second substrate, and wherein the first substrate is spaced from the second substrate.

61. The method of claim 60, wherein the alternating voltages include a sustain voltage and a second voltage.

62. The method of claim 60, wherein the second voltage value is a reference voltage.

63. The method of claim 62, wherein the reference voltage is substantially zero.

64. The method of claim 60, wherein the applying step includes:

inputting the sustain voltage into the first and third row electrodes and the second voltage into the second row electrode to simultaneously generate sustain discharges in the first and second cells.

65. The method of claim 64, wherein the applying step includes:

inputting the second voltage into the first and third row electrodes and the sustain voltage into the second row electrode to simultaneously generate sustain discharges in the first and second cells.

66. The method of claim 65, wherein each of the inputting steps causes a reversal of wall charge within the first and second cells.

67. The method of claim 65, further comprising:

alternating the inputting steps a predetermined number of times to control emission of light from the first and second cells.

68. The method of claim 60, wherein generating the wall charge in the first cell includes applying a scan voltage between the first row electrode and a column electrode in the first cell.

69. The method of claim 60, wherein generating the wall charge in the first cell includes:

applying a scan voltage between the first row electrode and a first column electrode to generate an address discharge in the first cell; and

removing the scan voltage to form the wall charge in the first cell.

70. The method of claim 60, wherein generating the wall charge in the second cell includes:

applying a scan voltage between the second row electrode and a second column electrode to generate an address discharge in the second cell; and

removing the scanning voltage between the second row electrode and second column electrode to form the wall charge in the second cell.

71. The method of claim 70, wherein a discharge start voltage of the first cell is larger than a sum of the wall charge in the first cell and the scan voltage applied between the second row electrode and the second column electrode.

72. The method of claim 71, wherein the discharge start voltage of the first cell is lower than a sum of the wall charge in the first cell and a sustain voltage applied to the second row electrode.

73. The plasma display panel of claim 14, wherein the protruding parts include at least one protruding part in a first direction.

74. The plasma display panel of claim 73, wherein the protruding parts include at least another protruding part in a second direction.

75. The plasma display panel of claim 74, wherein the first and second directions are opposite directions.

76. The plasma display panel of claim 14, wherein the transparent parts are interconnected to one another.

77. The plasma display panel of claim 25, wherein the protrusions include at least one protruding part in a first direction.

78. The plasma display panel of claim 77, wherein the protrusions include at least another protruding part in a second direction.

79. The plasma display panel of claim 78, wherein the first and second directions are opposite directions.

80. The plasma display panel of claim 25, wherein the protrusions are interconnected to one another.

81. A plasma display panel, comprising:

row electrodes on a first substrate, at least one row electrode including a plurality of transparent electrode segments;

column electrodes on a second substrate,

a phosphor layer formed over the second substrate; and

barrier ribs formed between the first and second substrates.

82. The plasma display panel of claim 81, wherein the transparent electrode segments include at least one segment in a first direction.

83. The plasma display panel of claim 82, wherein the transparent electrode segments include another segment in a second direction.

84. The plasma display panel of claim 83, wherein the first and second directions are opposite directions.